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HARRINGTON & SMITH, PC
4 RESEARCH DRIVE
SHELTON, CT 06484-6212

EXAMINER
SAMUEL, DEWANDA A

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/770,880	SREEMANTHULA ET AL.
	Examiner	Art Unit
	DeWanda Samuel	2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>11 February 2008</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-16 and 43-59</u> is/are pending in the application.

    4a) Of the above claim(s) <u>17-30</u> is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-16 and 43-59</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>11 August 2005</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1.　　Applicant's arguments with respect to **claims 1-16 and 31-59** have been considered but are moot in view of the new ground(s) of rejection.

2.　　**Claims 17- 30** were cancelled without prejudice or disclaimer and **claims 1-3, 5-11, 16, 31-33, 36-38, 40 and 42** were amended.

Information Disclosure Statement

3.　　The listing of references in the specification on page 11 is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered. Appropriate correction are required.

Claim Rejections - 35 USC § 112

4.　　The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5.   **Claim 1** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite

for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

6.   **With regard to claim 1** , the limitation "by a gateway mobile terminal of a mobile

network (MONET) from a link address manager of an access network (AN) information

relating to a plurality of link addresses". This is not clarity between the requesting by a

gateway and from a link address manager.

7.   **With regard to claims 1,2,3, 43 and 44,** the limitation " individual ones" is not

clearly defined. Examiner used the most broadest and reasonable interpretation.

Claim Rejections - 35 USC § 101

8.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

With regard to claims 43-57, the claimed invention is directed to non-statutory

subject matter: "the program storage device readable buy a mobile station , tangibly

embodying a program of instruction excutable". The claimed subject matter is

nonstatutory functional descriptive material as stated in the MPEP 2106 Patentable

Subject Matter. It is suggested that the applicant rewrite claims 43-57 in terms of" a

computer readable medium, stored with, embodied with or encoded with a computer

program or computer executable instructions."

Claim Rejections - 35 USC § 102

9.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1.   **Claims 31,32,40-42** are rejected under 35 U.S.C. 102(e as being anticipated by

Takahashi et al. (US 7,330,449).

        With regard to claim 31, Takahashi et al. discloses having A mobile station

comprising: a transceiver configured to enable communication such that the mobile

station functions as a gateway mobile terminal for being coupled between at least one

Mobile Network Node (MNN) and an access point (AP) of an access network a data

processor <u>configured, in</u> <u>response</u> to the mobile station connecting to the AP, to request

information from a link <u>layer address</u> (LLA) manager <u>of the AN, wherein the information</u>

<u>r</u>elates to a plurality of LLAs and <u>wherein the data processor is further configured</u> to

allocate individual ones of the plurality of LLAs to individual ones of the MNNs.

Takahashi et al. discloses having a mobile node 10 comprised of a transceiver 12 (fig. 3) … an access link is provided between a access point ("access point", column 5 line 20-25) and default router ("mobile network node", column 6 line 2-3)…acquiring a data link layer address of an access node (column 5 line 67 and column 6 line 1).

With regard to claim 32, Takahashi et al. teaches the mobile station recited in claim 31. where said data processor is operable to perform a neighbor discovery procedure with an access router (AR) of the AN to send at least one neighbor advertisement to declare an LLA allocated to the at least one MNN. (column 8 line 55-67).

With regard to claim 40, Takahashi et al. teaches the mobile station recited in claim 31. where said mobile station comprises a wireless device. (FIG.3)

With regard to claim 41, Takahashi et al. teaches the mobile station recited in claim 31. where said mobile station comprises a cellular telephone. (FIG.3)

With regard to claim 42, Takahashi et al. teaches the mobile station recited in claim 31. said mobile station data comprises a mobile router (MR). (fig. 3)

Claim Rejections - 35 USC § 103

10.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

11.   **Claims 1-4,11-16, 43-46, 48 54-59** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Janneteau et al. (EP 1367780) in view of Narten et al. ("Neighbor

Discovery for IP version 6 (IPv6) , 1998).

comprising: a requesting, by a gateway mobile terminal of a mobile network

(MONET), from a link address manager of an access network (AN) information relating

to a plurality of link addresses; receiving a response to the request; Janneteau et al.

discloses having a corresponding node (gateway mobile terminal") . However,

Janneteau et al. does not disclose from a link address manager of an access network

(AN) information relating to a plurality of link addresses; receiving a response to the

request. Narten et al. discloses having a neighbor discovery for IP version 6 (IPv6).

Narten et al. further discloses having an host having a list of default routers (page 10

line 40-47)

        Therefore it would have been obvious to one having ordinary skill in the art

at the time of the invention was made to have a corresponding node (gateway mobile

terminal") as taught by Janneteau et al. requesting addresses from a host (" link

address manager") as taught by Narten et al. advantageously maintaining a updated

list of current link layer addresses.

and allocating, based on the response, individual ones of the of assigned link

addresses to individual ones of network nodes of the MONET; Janneteau et al.

discloses having a care-of route solicitation message 2400 in fig. 24 soliciting for the all

the nodes address("link layer addresses") from the CN ('link address manger" column

15 paragraph 82 line 1-58).

With regard to claim 2, Janneteau et al. (Currently Amended) A method as in

claim 58, where each network node sends a neighbor advertisement to the AR to

declare the link address allocated to <u>individual ones </u>of the network nodes. Janneteau et

al. discloses having MNNs ("mobile network node, "network node") sending one or more

extended Binding Update messages to their respective CNs("access router") ... the

care-of-route is an ordered list of IP addresses that a CN will use to source route its

packets to the MNN on the shortest path ("AR", column 12 line 8-16).

With regard to claim 3, in combination Janneteau et al. and Narten et al.

teaches the method recited in claim 58. where the gateway mobile terminal sends at

least one neighbor advertisement to the AR to declare the link addresses allocated to a

plurality <u>individual ones </u>of the network nodes. Janneteau et al discloses having a mobile

network ("access network") that is capable of sending data packets (column 9

paragraph 51 and 52). However, Janneteau et al. does not disclose one neighbor

advertisement to the AR to declare the link addresses allocated to a plurality <u>individual</u>

<u>ones </u>of the network nodes. Narten et al. discloses having a neighbor discovery for IP

version 6 (IPv6). Narten et al. further discloses having an host having a list of default

routers (page 10 line 40-47)

Therefore it would have been obvious to one having ordinary skill in the art

at the time of the invention was made to have a corresponding node (gateway mobile

terminal") as taught by Janneteau et al. requesting addresses from a host (" link

address manager") as taught by Narten et al. advantageously maintaining a updated

list of current link layer addresses.

With regard to claim 4, in combination Janneteau et al. and Narten et al.

teaches the method recited in claim 1.where the request is made to obtain a set of link

layer addresses (LLAs) that are allocated to individual ones of the network nodes.

Janneteau et al. discloses having a care-of route solicitation message that is an ICMPv6

router solicitation message which can be sent by a MNN (mobile network node).., this

message solicits all the IP multicast address (" link layer addresses" column)

belonging, to the router.

With regard to claim 11, in combination Janneteau et al. and Narten et al.

teaches the method recited in claim 4. where the set of LLAs are-is tracked as a group.

Janneteau et al. discloses having a mobile router advertising its mobility in the mobile

network ...the mobile router sends a care- of-route advertisement message.., the

message contains the care-of-address (LLAs) of the MR1 (mobile router) and as well

as the care-of-addresses of all the mobile routers above MR1(mobile router). It is

inferred that the care-of- addresses (LLAs) is able to be tracked as a group.

With regard to claim 12, in combination Janneteau et al. and Narten et al.

teaches the method recited in claim 1. where said gateway mobile terminal comprises a

wireless device. (column 9 paragraph 51).

With regard to claim 13, in combination Janneteau et al. and Narten et al.

teaches the method recited in claim 1. where said gateway mobile terminal comprises a

cellular telephone. (" CN 3rd generation cellular phone", column 9 paragraph 52).

With regard to claim 14, in combination Janneteau et al. and Narten et al.

teaches the method recited in claim 1. where said gateway mobile terminal comprises a

mobile router (MR).(column 10 paragraph 59, Mobile Router2)

With regard to claim 15, in combination Janneteau et al. and Narten et al.

teaches the method recited in claim 1. where said link address manager is associated

with said AN. Janneteau et al. discloses having a mobile network ("access network")

that is capable of sending data packets (column 9 paragraph 51 and 52). However,

Janneteau et al. does not disclose where said link address manager is associated with

said AN. Narten et al. discloses having a neighbor discovery for IP version 6 (IPv6).

Narten et al. further discloses having an host having a list of default routers (page 10

line 40-47)

Therefore it would have been obvious to one having ordinary skill in the art

at the time of the invention was made to have a mobile network ("access network") as

taught by Janneteau et al. requesting addresses from a host (" link address manager")

as taught by Narten et al. advantageously maintaining a updated list of current link layer

addresses.

With regard to claim 16, Janneteau et al. discloses having a system a mobile

network (MONET) having a gateway mobile terminal and at least one Node-mobile

network node (MNN)[[,]]I and an access network (AN) comprising an access point (AP),

an access router (AR) and a link layer address (LLA) manager configured to manage

LLAs, said MONET being connectable via the gateway mobile terminal to the APAN .

Janneteau et al discloses having a mobile network ("access network") that is capable of

sending data packets (column 9 paragraph 51 and 52). Janneteau et al. further

discloses mobile router ("mobile node"), home agent ("access point") , a LFN ("access

router", column 12 paragraph 68-74).

the gateway mobile terminal is configured, is responsive in response to the gateway

mobile terminal connecting to the AP~ to request from the LLA manager information

relating to a plurality of LLAs and to allocate individual ones of the plurality of LLAs to

individual ones of the MNNs, Janneteau et al. discloses having a care-of route

solicitation message 2400 in fig 24 soliciting for the all the nodes address("link layer

addresses") from the CN ('link address manger" column 15 paragraph 82 line 1-58).

Janneteau et al. does not explicitly disclose where at least one of the gateway router

and the MNNs is configured to perform a neighbor discovery procedure with the AR to

send at least one neighbor advertisement declaring at least one allocated LLA. Narten

et al. discloses having a neighbor discovery for IP version 6 (IPv6). Narten et al. further

discloses having an host having a list of default routers (page 10 line 40-47)

Therefore it would have been obvious to one having ordinary skill in the art

at the time of the invention was made to have a corresponding node (gateway mobile

terminal") as taught by Janneteau et al. requesting addresses from a host (" link

address manager") as taught by Narten et al. advantageously maintaining a updated

list of current link layer addresses.

With regard to claim 43, Janneteau et al. discloses having a *program storage*

device readable by a mobile station, tangibly embodying a program of instruction

executable by a data processor of the mobile station for performing operations, the

operations comprising: requesting, by a gateway mobile terminal of a mobile network

(MONET), a plurality of link addresses from a link address manager of an access

network (AN);receiving a response to the request; Janneteau et al. discloses having a

corresponding node (gateway mobile terminal") . However, Janneteau et al. does not

disclose from a link address manager of an access network (AN) information relating to

a plurality of link addresses; receiving a response to the request. Narten et al. discloses

having a neighbor discovery for IP version 6 (IPv6). Narten et al. further discloses

having an host having a list of default routers (page 10 line 40-47)

Therefore it would have been obvious to one having ordinary skill in the art

at the time of the invention was made to have a corresponding node (gateway mobile

terminal") as taught by Janneteau et al. requesting addresses from a host (" link

address manager") as taught by Narten et al. advantageously maintaining a updated

list of current link layer addresses.

and allocating, based on the response, individual ones of assigned link

addresses to individual ones of network nodes of the MONET. Janneteau et al.

discloses having a care-of route solicitation message 2400 in fig. 24 soliciting for the all

the nodes address("link layer addresses") from the CN ('link address manger" column

15 paragraph 82 line 1-58).

With regard to claim 44, the program storage device claim is interpreted

rejected as set forth in the method claim .

With regard to claim 45, the program storage device claim is interpreted

rejected as set forth in the method claim 2.

With regard to claim 46, the program storage device claim is interpreted

rejected as set forth in the method claim 4.

With regard to claim 48, the program storage device claim is interpreted

rejected as set forth in the method claim 11.

With regard to claim 54, the program storage device claim is interpreted

rejected as set forth in the method claim 12

With regard to claim 55, the program storage device claim is interpreted

rejected as set forth in the method claim 13.

With regard to claim 56, the program storage device claim is interpreted

rejected as set forth in the method claim 14.

With regard to claim 57, the program storage device claim is interpreted

rejected as set forth in the method claim 15.

With regard to claim 58, in combination Janneteau et al. and Narten et al.

teaches the method recited in claim 1. further comprising: performing a neighbor

discovery procedure with an access router (AR) of the AN to send at least one neighbor

advertisement declaring the allocated individual ones of the assigned link addresses.

Janneteau et al discloses having a mobile network ("access network") that is capable of

sending data packets (column 9 paragraph 51 and 52). However, Janneteau et al. does

not disclose one neighbor advertisement to the AR to declare the link addresses

allocated to a plurality individual ones of the network nodes. Narten et al. discloses

having a neighbor discovery for IP version 6 (IPv6). Narten et al. further discloses

having an host having a list of default routers (page 10 line 40-47)

Therefore it would have been obvious to one having ordinary skill in the art

at the time of the invention was made to have a corresponding node (gateway mobile

terminal") as taught by Janneteau et al. requesting addresses from a host (" link

address manager") as taught by Narten et al. advantageously maintaining a updated

list of current link layer addresses.

With regard to claim 59, the program storage device claim is interpreted

rejected as set forth in the method claim 16.

12. **Claims 5 and 49** are rejected under 35 U.S.C. 103(a) as being unpatentable

over Janneteau et al. (EP 1367780) in view of Narten et al. ("Neighbor Discovery for IP

version 6 (IPv6) , 1998) as applied to claim1 above, and further in view of Lee et al. ("

Route Optimization for Mobile Nodes in Mobile Network based on Prefix Delegation,

2003).

With regard to claim 5, in combination Janneteau et al. and Narten et al.

teaches the method recited in claim 1. where the request is made to obtain a group

identification (Group_D), and-where the method further comprises using an obtained

Group_ID to formulate a set of link layer addresses (LLAs) that are allocated to

individual ones of the network nodes. Janneteau et al. discloses having a

corresponding node (gateway mobile terminal"). However, Janneteau et al. doe not

disclose where the request is made to obtain a group identification (Group_D), and-

where the method further comprises using an obtained Group_ID to formulate a set of

link layer addresses (LLAs) that are allocated to individual ones of the network

nodes.Lee et al. discloses route

optimization for mobile nodes in mobile network based on prefix delegation (title).

Lee et al. further discloses MR (mobile router) having a mobile network prefix

(Group_ID) and that the MR performs prefix delegation.., also in fig. 2 ech of the

VMN makes CoAs (link layer address) from the prefixes (column 4 line 5-18).

Therefore it would have been obvious to one having ordinary skill in the art

at the time of the invention was made to have corresponding node (gateway mobile

terminal"). as taught by Janneteau et al requesting a mobile network prefix ("Group_ID)

and that the MR performs prefix delegation using an a CoAs (care of address, "link

layer address") as taught by Lee et al. to provide a unique identifier for the IP subnet

that the device came from.

With regard to claim 49, the program storage device claim is interpreted

rejected as set forth in the method claim 5.

13.   **Claims 6,7, 52 and 53** are rejected under 35 U.S.C. 103(a) as being

unpatentable over Janneteau et al. (EP 1367780) in view of Narten et al. ("Neighbor

Discovery for IP version 6 (IPv6) , 1998) as applied to claim1 above, and further in

view of Perkins et al. ("Mobility Support in Ipv6, 1996).

With regard to claim 6, in combination Janneteau et al. and Narten et al.

teaches the method recited in claim 1. where the request is made to obtain a set of link

layer addresses (LLAs), and-where the method further comprises mapping individual

ones of the LLAs to individual hardwired addresses of individual ones of the network

nodes. Janneteau et al. discloses having a corresponding node (gateway mobile

terminal", column 10 paragraph 55) However, Janneteau et al. does not explicitly

discloses a set of LLAs individual ones of which are mapped to a media access control

(MAC) address of individual ones of the MNNs. Perkins et al. discloses having a nodes

discover each other's presence, as well as each other's link-layer(i.e. MAC) addresses

by participating in the neighborhood discovery protocol (column 4 line 16-22). It is

inferred that the link layer addresses corresponds to the MAC addresses of the nodes in

the local network.

Therefore it would have been obvious to one having ordinary; skill in the art at the time of the invention was made to have a Janneteau et al. discloses having a corresponding node (gateway mobile terminal", as taught by Janneteau et al. using a neighborhood discovery protocol locate nodes link layer address as taught by Perkins providing a mechanism whereby reducing delay in delivering packets within the mobile network.

With regard to claim 7, in combination Janneteau et al. and Narten et al. teaches the method recited in claim 1. where the request is made to obtain a set of link layer addresses (LLAs), and-where the method further comprises mapping individual ones of the LLAs to individual media access control (MAC) addresses of individual ones of the network nodes. Janneteau et al. discloses having a corresponding node (gateway mobile terminal", column 10 paragraph 55) However, Janneteau et al. does not explicitly discloses a set of LLAs individual ones of which are mapped to a media access control (MAC) address of individual ones of the MNNs. Perkins et al. discloses having a nodes discover each other's presence, as well as each other's link-layer(i.e. MAC) addresses by participating in the neighborhood discovery protocol (column 4 line 16-22). It is inferred that the link layer addresses corresponds to the MAC addresses of the nodes in the local network.

Therefore it would have been obvious to one having ordinary; skill in the art at the time of the invention was made to have a Janneteau et al. discloses having a

corresponding node (gateway mobile terminal", as taught by Janneteau et al. using a

neighborhood discovery protocol locate nodes link layer address as taught by Perkins

providing a mechanism whereby reducing delay in delivering packets within the mobile

network.

With regard to claim 52, the program storage device claim is interpreted

rejected as set forth in the method claim 6.

With regard to claim 53, the program storage device claim is interpreted

rejected as set forth in the method claim 7.

14.   Claim 8-10, 47, 50 and 51 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Janneteau et al. (EP 1367780) in view of Narten et al. ("Neighbor

Discovery for IP version 6 (IPv6) , 1998). as applied to claim 4 above, and further in

view of Chiou et al. (US Patent 6,473,413).

With regard to claim 8, in combination Janneteau et al. and Narten et al.

teaches the method recited in claim 4. where the set of LLAs are associated with a first

AP, and--the method further comprising, in response to changing a connection of the

gateway mobile terminal from the first AP to a second AP, sending a message from the

gateway mobile terminal to reassociate the set of LLAs with the second AP. Janneteau

et al. discloses having a method and apparatus for route optimization in nested mobile

networks (title). Janneteau et al. further discloses having a corresponding node(

"gateway mobile terminal") adapted to generate , update and search a new binding

cache (column 10 paragraph 55). However, Janneteau et al. does not explicitly

discloses where the set of LLAs are associated with a first AP, and--the method further

comprising, in response to changing a connection of the gateway mobile terminal from

the first AP to a second AP, sending a message from the gateway mobile terminal to

reassociate the set of LLAs with the second AP. Chiou et al. discloses having a method

for inter-IP- domain roaming across wireless networks (title). Chiou et al. further

discloses having a MAC address (LLA) associated with an AP (access point). Chiou et

al. discloses that a mobile station 19 moves from first access point A 13 to the new

access point B 17 (column 3 line 59-67 and column 4 line 1-21) with a reassociation

procedure between the AP 17 and mobile station 19.

Therefore it would have been obvious to one having ordinary skill in the art

at the time of the invention was made to have method of registering mobile node

with a corresponding node("gateway mobile terminal") as taught by Janneteau et al.

with a mobile station 19 reassociating APs (access point) as taught by Chiou et al. to

provide a mechanism to allow to roam among various A Ps in different IP subnets.

With regard to claim 9, in combination Janneteau et al. and Narten et al.

teaches the method recited in claim 5. where the Group_ID is associated with a first

AP, and-the method further comprising, in response to changing a connection of the

Gateway mobile terminal from the first AP to a second AP, sending a message from the

gateway mobile terminal to reassociate the Group_ID with the second AP. Chiou et al.

discloses that a mobile station 19 moves from first access point A 13 to the new access

point B 17 (column 3 line 59-67 and column 4 line 1-21) with a reassociation procedure

between the AP 17 and mobile station 19. It is inferred that the combination of the AP IP

address and MAC address forms a Group_ID that is unique among other AP (access

points).

Therefore it would' have been obvious to one having ordinary skill in the art at the

time of the invention was made to have method of registering mobile node with a. with a

mobile station 19 reassociating APs (access point) as taught by Chiou et al. to provide a

mechanism to allow to roam among various A Ps in different IP subnets.

With regard to claim 10, in combination Janneteau et al. and Narten et al.   .

teaches the method recited in claim 5. where the Group_ID is associated with a first AP,

and-the method further comprising, in response to changing a connection of the

gateway mobile terminal from the first AP to a second AP, sending a message from the

gateway mobile terminal to obtain another Group_ID that is associated with the second

AP. Janneteau et al. discloses having a corresponding node ("gateway mobile

terminal" column 10 paragraph 55). However, Janneteau et al. does not disclose

where the Group_ID is associated with a first AP, and-the method further comprising, in

response to changing a connection of the gateway mobile terminal from the first AP to a

second AP, sending a message from the gateway mobile terminal to obtain another

Group_ID that is associated with the second AP. Chiou et al. discloses having a

method for inter-IP-domain roaming across wireless networks (title). Chiou et al. further

discloses having a MAC address and a AP IP address ("Group_ID") associated with an

AP (access point). Chiou et al. discloses that a mobile station 19 moves from first

access point A 13 to the new access point B 17 (column 3 line 59-67 and column 4 line

1-21) with an association procedure between the AP 17 and mobile station 19. It is

inferred that the combination of the AP IP address and MAC address forms a Group_ID

that is unique among other AP (access points).

Therefore it would have been obvious to one having ordinary skill in the art

at the time of the invention was made to have corresponding node ("gateway mobile

terminal as taught by Janneteau et al. associating between the AP 17 and mobile

station 19 as taught by Chiou et al. providing a roaming mechanism that allows various

APs to roam in different IP subnets.

With regard to claim 47, the program storage device claim is interpreted

rejected as set forth in the method claim 8.

With regard to claim 50, the program storage device claim is interpreted

rejected as set forth in the method claim 9.

With regard to claim 51, the program storage device claim is interpreted

rejected as set forth in the method claim 10.

15.   **Claim 33** is rejected under 35 U.S.C. 103(a) as being unpatentable over

Takahashi et al. (US patent 7,330,449) as applied to claim 31 above, and further in

view of Lee et al. (" Route Optimization for Mobile Nodes in Mobile Network based on

Prefix Delegation, 2003).

With regard to claim 33, Takahashi et al. teaches the mobile station recited in

claim 31. where the information relating to a plurality of LLAs comprises a group

identification (Group_D), and where said data processor is operable to use the

Group_ID to formulate a set of LLAs, individual ones of which are allocated to an-

individual ones of the MNNs. Takahashi et al. discloses acquiring data link layer

addresses (column 8 line 67). However, Takahashi et al. does not disclose having a

group identification (Group_D), and where said data processor is operable to use the

Group_ID to formulate a set of LLAs, individual ones of which are allocated to an-

individual ones of the MNNs. Lee et al. discloses route optimization for mobile nodes in

mobile network based on prefix delegation (title). Lee et al. further discloses MR (mobile

router) having a mobile network prefix CGroup_ID) and that the MR performs prefix

delegation.., also in fig. 2 ech of the VMN makes CoAs (link layer address) from the

prefixes (column 4 line 5-18).

Therefore it would have been obvious to one having ordinary skill in the art

at the time of the invention was made to have data link layer addresses as taught by

Takahashi et al. requesting a mobile network prefix ("Group_ID) and that the MR

performs prefix delegation using an a CoAs (care of address, "link layer address") as taught by Lee et al. to provide a unique identifier for the IP subnet that the device came from.

16. **Claim 34 and 35** are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (US patent 7,330,449) as applied to claim 31 above, and further in view of Perkins et al. ("Mobility Support in Ipv6, 1996).

With regard to claim 34, Takahashi et al. teaches the mobile station recited in claim 31. where the information relating to a plurality of LLAs comprises a set of LLAs individual ones of which are mapped to a hardwired address of individual ones of the MNNs. Takahashi et al. discloses acquiring data link layer addresses (column 8 line 67). Perkins et al. discloses having a nodes discover each other's presence, as well as each other's link-layer(i.e. MAC) addresses by participating in the neighborhood discovery protocol (column 4 line 16-22). It is inferred that the link layer addresses corresponds to the MAC addresses of the nodes in the local network.

Therefore it would have been obvious to one having ordinary; skill in the art at the time of the invention was made to have a gateway 12 as taught by Thubert et al. using a neighborhood discovery protocol locate nodes link layer address as taught by Perkins providing a mechanism whereby reducing delay in delivering packets within the mobile network.

With regard to claim 35, Takahashi et al. teaches the mobile station recited in claim 31. where the information relating to a plurality of LLAs comprises a set of LLAs individual ones of which are mapped to a media access control (MAC) address of individual ones of the MNNs. Takahashi et al. discloses having a mobile node 10 acquiring data link layer addresses (column 8 line 55-67). However, Takahashi et al. does not explicitly discloses a set of LLAs individual ones of which are mapped to a media access control (MAC) address of individual ones of the MNNs. Perkins et al. discloses having a nodes discover each other's presence, as well as each other's link-layer(i.e. MAC) addresses by participating in the neighborhood discovery protocol (column 4 line 16-22). It is inferred that the link layer addresses corresponds to the MAC addresses of the nodes in the local network.

Therefore it would have been obvious to one having ordinary; skill in the art at the time of the invention was made to have a mobile node 10 acquiring data link layer addresses as taught by Takahashi et al. et al. using a neighborhood discovery protocol locate nodes link layer address as taught by Perkins providing a mechanism whereby reducing delay in delivering packets within the mobile network.

17.   **Claims 36-39** are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. (US patent 7,330,449) as applied to claim 31above, and further in view of Chiou et al. (US Patent 6,473,413).

With regard to claim 36, Takahashi et al. teaches the mobile station recited in

claim 31. where the request is made to obtain a set of LLAs, where the set of LLAs are

associated with a first AP, and where said data processor further operates, in response

to changing a connection of the mobile station from the first AP to a second AP, to send

a message to reassociate the set of LLAs with the second AP. Takahashi et al.

discloses having a mobile node 10 acquiring data link layer addresses (column 8 line

55-67). Takahashi et al. further discloses associating the LLA access router ("access

point" column 8 line 55-67). However, Takahashi et al. does not disclose set of LLAs

are associated with a first AP, and where said data processor further operates, in

response to changing a connection of the mobile station from the first AP to a second

AP, to send a message to reassociate the set of LLAs with the second AP. Chiou et al.

discloses having a method for inter-IP- domain roaming across wireless networks (title).

Chiou et al. further discloses having a MAC address (LLA) associated with an AP

(access point). Chiou et al. discloses that a mobile station 19 moves from first access

point A 13 to the new access point B 17 (column 3 line 59-67 and column 4 line 1-21)

with a reassociation procedure between the AP 17 and mobile station 19.

Therefore it would have been obvious to one having ordinary skill in the art

at the time of the invention was made to have a mobile node 10 acquiring data link

layer addresses as taught by Takahashi et al. with a mobile station 19 reassociating

APs (access point) as taught by Chiou et al. to provide a mechanism to allow to roam

among various A Ps in different IP subnets.

With regard to claim 37, Takahashi et al. teaches the mobile station recited in

claim 31. where the Group_ID is associated with a first AP, and where said data

processor further operates, in response to changing a connection of the mobile station

from the first AP to a second AP, to send a message to reassociate the Group_ID with

the second AP. Takahashi et al. discloses having a mobile node 10 acquiring data link

layer addresses (column 8 line 55-67). Takahashi et al. further discloses associating

the LLA access router ("access point" column 8 line 55-67). However, Takahashi et

al. does not disclose where the Group_ID is associated with a first AP, and where said

data processor further operates, in response to changing a connection of the mobile

station from the first AP to a second AP, to send a message to reassociate the

Group_ID with the second AP. Chiou et al. discloses that a mobile station 19 moves

from

first access point A 13 to the new access point B 17 (column 3 line 59-67 and

column 4 line 1-21) with a reassociation procedure between the AP 17 and

mobile station 19. It is inferred that the combination of the AP IP address and

MAC address forms a Group_ID that is unique among other AP (access points).

Therefore it would have been obvious to one having ordinary skill in the art at the

time of the invention was made to have a mobile node 10 as taught by Takahashi et al.

reassociating APs (access point) as taught by Chiou et al. to provide a mechanism to

allow to roam among various A Ps in different IP subnets

With regard to claim 38, Takahashi et al. teaches the mobile station recited in

claim 31. where the Group_ID is associated with a first AP, and where said data

processor further operates, in response to changing a connection of the mobile station

from the first AP to a second AP, to send a message to obtain another Group_ID that is

associated with the second AP. Takahashi et al. discloses having a mobile node 10

acquiring data link layer addresses (column 8 line 55-67). Takahashi et al. further

discloses associating the LLA access router ("access point" column 8 line 55-67).

However, Takahashi et al. does not disclose where the Group_ID is associated with a

first AP, and where said data processor further operates, in response to changing a

connection of the mobile station from the first AP to a second AP, to send a message to

obtain another Group_ID that is associated with the second AP. Chiou et al. discloses

having a method for inter-IP-domain roaming across wireless networks (title). Chiou et

al. further discloses having a MAC address and a AP IP address ("Group_ID")

associated with an AP (access point). Chiou et al. discloses that a mobile station 19

moves from first access point A 13 to the new access point B 17 (column 3 line 59-67

and column 4 line 1-21) with an association procedure between the AP 17 and mobile

station 19. It is inferred that the combination of the AP IP address and MAC address

forms a Group_ID that is unique among other AP (access points).

Therefore it would have been obvious to one having ordinary skill in the art

at the time of the invention was made to. have a mobile node 10 as taught by Takahashi

et al. associating APs (access point) as taught by Chiou et al. to provide a mechanism

to allow to roam among various A Ps in different IP subnets.

With regard to claim 39, Takahashi et al. teaches the mobile station recited in

claim 31., where a set of LLAs are tracked as a group. Takahashi et al. discloses

having a mobile node 10 acquiring data link layer addresses (column 8 line 55-67).

Takahashi et al. further discloses associating the LLA access router ("access point"

column 8 line 55-67). However, Takahashi et al. does not disclose where a set of

LLAs are tracked as a group. Chiou et al. discloses having a method for inter-IP-domain

roaming across wireless networks (title). Chiou et al. further discloses having a MAC

address and a AP IP address ("Group_ID") associated with an AP (access point). Chiou

et al. discloses that a mobile station 19 moves from first access point A 13 to the new

access point B 17 (column 3 line 59-67 and column 4 line 1-21) with an association

procedure between the AP 17 and mobile station 19. It is inferred that the combination

of the AP IP address and MAC address forms a Group_ID that is unique among other

AP (access points).

Therefore it would have been obvious to one having ordinary skill in the art

at the time of the invention was made to. have a mobile node 10 as taught by Takahashi

et al. associating APs (access point) as taught by Chiou et al. to provide a mechanism

to allow to roam among various A Ps in different IP subnets.

Prior Art

18. The prior art made of record was not used but is pertinent to applicant's disclosure.

Koodli et al. (US Patent 6,930,988) discloses having a method and system for fast IP connectivity in mobile network.

Yokote (PG PUB 2002/0157024) discloses having intelligent security association management sever for mobile IP networks.

Watannabe (PG PUB 2004/0111483) discloses having an apparatus and method for controlling communication with mobile node.

Malki et al. (PG PUB 2001/0046223) discloses having an hierarchical mobility management for wireless networks.

Krishnamurthi et al. (US Patent 6,999,437) discloses having end-to-end location privacy in telecommunication networks.

Inoue et al. (US patent 6,515,974) discloses having mobile computer communication scheme supporting moving among networks of different address systems.

Leung (US Patent 6,636,498) discloses having a mobile IP mobile router.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DeWanda Samuel whose telephone number is (571) 270-1213. The examiner can normally be reached on Monday- Thursday 8:30-5:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Q. Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/
Supervisory Patent Examiner, Art
Unit 2616

DeWanda Samuel
4/18/2008